

The last method used to provide information on induced infiltration was the field testing of water quality from both the pumped water and the Great Brook. The results of this testing are shown on Table 3-1. These results indicate the Great Brook Well water quality remained constant throughout the test. The water samples taken from the brook indicate relatively constant water quality results. These surface water results indicate the carbonate system (pH, carbon dioxide and alkalinity) was slightly influenced by the rainfall as was the conductivity. In both cases, based on the results of the above-mentioned methods and results, it appears that ground water withdrawn originates below the stream bed level, leaving the stream water perched. A similar observation was made for the pump test and conceptual Zone II delineation for the West Springfield wells along Great Brook located approximately 7,500 feet downgradient of the Great Brook Well. Based on the stream gauge measurements, infiltration through the stream bed was negligible, as was expected due to the fine-grained soil materials in the upper aquifer strata. Movement of surface water through Great Brook appears to be attributable to base flow, and the stream is likely in poor hydraulic connection with the underlying aquifer.